

Compositions for Chemical Mechanical Planarization of Tungsten

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ABSTRACT OF THE DISCLOSURE

The present invention relates to slurry compositions for the chemical mechanical planarization (“CMP”) of tungsten. A non-metallic oxidizer in the form of periodic acid is used in combination with a mineral acid typically nitric acid, to maintain the pH of periodic acid at levels not leading to the precipitation of iodic acid salts. Ammonium nitrate (NH_4NO_3) is included in the CMP slurry which yields soft pad polishing rates of tungsten film removal of approximately 4,000 Å/min.